

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

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1. (Currently Amended) A method to perform routing in a network, comprising:  
receiving a packet at a network node;  
determining whether said packet requires advanced routing services; and  
sending said packet to an hosted advanced routing server services provider.
  2. (Original) The method of claim 1, wherein said sending is performed over a virtual connection.
  3. (Original) The method of claim 2, wherein said virtual connection is secure.
  4. (Canceled)
  5. (Currently Amended) A method to perform routing in a network, comprising:  
receiving a packet at a network node;  
determining whether said packet requires advanced routing services, with said advanced routing services comprising dynamic routing;

sending a request for advanced routing information to an hosted advanced routing  
server ~~services provider~~;

receiving said advanced routing information; and

routing said packet using said advanced routing information.

6. (Original) The method of claim 5, wherein said sending and receiving are performed over a virtual connection.

7. (Original) The method of claim 6, wherein said virtual connection is secure.

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8. (Original) A method to perform routing in a network, comprising:  
receiving a packet and a request for advanced routing information from an  
intermediate node;  
determining a packet classification for said packet;  
retrieving advanced routing information corresponding to said packet  
classification; and  
routing said packet using said advanced routing information.

9. (Original) The method of claim 8, wherein said packet is received and routed using a virtual connection.

10. (Original) The method of claim 8, wherein said virtual connection is secure.

11. (Original) The method of claim 8, wherein said retrieving comprises retrieving said routing information from a routing table.

12. (Original) A method to perform routing in a network, comprising:  
receiving a request for advanced routing information for a packet from an intermediate node;  
determining a packet classification for said packet;  
retrieving advanced routing information corresponding to said packet classification; and  
sending said advanced routing information to said intermediate node.

13. (Original) The method of claim 12, wherein said packet is received and routed using a virtual connection.

14. (Original) The method of claim 13, wherein said virtual connection is secure.

15. (Original) The method of claim 12, wherein said retrieving comprises retrieving said routing information from a routing table.

16. (Original) A method to perform advanced network services in a network, comprising:  
receiving a request for an advanced network service for a packet from an intermediate node over a first virtual connection;

performing said advanced network service for said packet; and  
sending said packet over a second virtual connection.

17. (Original) The method of claim 16, wherein said first and second virtual connections are secure.

18. (Currently Amended) An article comprising:

a storage medium;

said storage medium including stored instructions that, when executed by a processor, result in performing routing in a network by receiving a packet at a network node, determining whether said packet requires advanced routing services, and sending said packet to an hosted advanced routing server ~~services provider~~.

19. (Original) The article of claim 18, wherein the stored instructions, when executed by a processor, further result in sending said packet over a secure virtual connection.

20. (Original) The article of claim 18, wherein the stored instructions, when executed by a processor, further result in receiving said packet with advanced routing information, and sending said packet to another network node using said advanced routing information.

21. (Currently Amended) An article comprising:

a storage medium;

said storage medium including stored instructions that, when executed by a processor, result in performing routing in a network by receiving a packet at a network node, determining whether said packet requires advanced routing services with said advanced routing services comprising dynamic routing, sending a request for advanced routing information to an hosted advanced routing server ~~services provider~~, receiving said advanced routing information, and routing said packet using said advanced routing information.

22. (Original) The article of claim 21, wherein the stored instructions, when executed by a processor, further result in sending and receiving said request and said advanced routing information, respectively, over a secure virtual connection.

23. (Original) An article comprising:

a storage medium;

said storage medium including stored instructions that, when executed by a processor, result in performing routing in a network by receiving a packet and a request for advanced routing information from an intermediate node, determining a packet classification for said packet, retrieving advanced routing information corresponding to said packet classification, and routing said packet using said advanced routing information.

24. (Original) The article of claim 23, wherein the stored instructions, when executed by a processor, further result in receiving and routing over a secure virtual connection.

25. (Original) A method to perform routing in a network, comprising:
- receiving a packet at a network node;
  - determining whether said packet requires advanced network services; and
  - sending said packet to an advanced network services provider.
26. (Original) The method of claim 25, wherein said sending is performed over a secure virtual connection.
27. (Original) An article comprising:
- a storage medium;
  - said storage medium including stored instructions that, when executed by a processor, result in performing advanced network services in a network by receiving a request for an advanced network service for a packet from an intermediate node over a first virtual connection, performing said advanced network service for said packet, and sending said packet over a second virtual connection.
28. (Original) The article of claim 27, wherein the stored instructions, when executed by a processor, further result in receiving and sending over a secure virtual connection.
29. (New) A system, comprising:
- a communication medium;

a network node to connect to said communication medium, said network node to receive a packet and determine whether said packet requires advanced routing services or advanced network services; and

B1 a hosted advanced routing server to connect to said communication medium, said hosted advanced routing server to provide said advanced routing services or advanced network services for said packet.

30. (New) The system of claim 29, wherein said network node determines whether said packet requires said advanced routing services or advanced network services, said network node to send said packet and a request for such services over said communication medium.

31. (New) The system of claim 30, wherein said hosted advanced routing server receives said packet and request, and processes said packet in accordance with said request.

32. (New) The system of claim 29, wherein said network node determines whether said packet requires said advanced routing services or advanced network services, sends a request for such services over said communication medium, receives information to perform such services from said hosted advanced routing server, and processes said packet using said information.

33. (New) The system of claim 29, wherein said network node establishes a virtual connection to said hosted advanced routing server over said communication medium.

34. (New) The system of claim 33, wherein said virtual connection comprises a secure virtual connection.

→ 35. (New) A hosted advanced routing server, comprising:  
a virtual private network module;  
an advanced routing services module;  
an advanced network services module;  
a scheduling module; and  
a bus to connect said modules, said modules to communicate information over said bus to perform advanced routing services and advanced network services for a packet.

36. (New) The apparatus of claim 35, further comprising a network interface.

37. (New) The apparatus of claim 35, further comprising a communications medium, said hosted advanced routing server to communicate said information to a network node using said network interface and said communication medium.

38. (New) The apparatus of claim 35, further comprising a processor to process information from said modules.